

## UNITED STATES PATENT OFFICE

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## SAFETY HINGE

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The present invention relates to hinge structures and particularly to improvements in safety hinge constructions for swinging doors.

One of the primary objects of the present invention is to provide improvements in hinges of the type described, which are so constructed that the pinching of a person or object between the adjacent edges of the hinged members as they swing is prevented.

A further object of the invention is to provide improvements in hinged constructions of the type mentioned in which the hinges are economical to manufacture and attractive in appearance.

Other objects of the invention will become apparent from the following specification, the drawing relating thereto and from the claims hereinafter set forth.

In the drawing in which like numerals are used to designate like parts in the several views throughout:

Figure 1 is a partial view of a wall having a door hinged thereto according to the present invention;

Fig. 2 is an enlarged, cross-sectional view taken substantially along the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing the parts in a different position; and,

Fig. 4 is a fragmentary elevational view of a portion of the hinge on the hinge side thereof.

The hinge of the present invention is particularly adapted for use as a door hinge in public places, such as trains, where there is danger of a person being caught between the adjacent faces of a door and wall panel as the door is opened and closed. However, according to the broader aspects of the invention, the hinge will have other uses.

Referring to the drawing, a wall panel is indicated at 1 having a door opening 2 within which a door 3 is disposed. The door 3 is hingedly connected to the door panel 1 by means of a hinge generally indicated at 4.

The hinge 4 comprises a pair of hinge members 5 and 6, and each of such members 5 and 6 extends the full height of the door. The member 5 is formed with a U-shaped recess 7 which receives therein the adjacent edge of the wall panel 1 and may be suitably secured thereto. The member 6 is formed with a similar U-shaped recess 8 within which the adjacent edge of the door 3 is received and suitably fixed thereto.

Members 5 and 6 are preferably formed of extruded aluminum sections generally similar to the sections disclosed in the Moynahan et al. Patent No. 2,288,013. The sections 5 and 6 are

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formed with rounded beads 9 and 10, respectively, which have alternate sections milled out to provide alternate, complementary tongue and groove portions which interfit with respect to each other as shown in Fig. 4. Aligned pintle openings 11 are formed in the beads 9 and 10, and may be formed therein either during the extrusion process or may be later drilled therein. The milled recesses are preferably formed by the machine disclosed in the copending application of Roger G. Cudini, Serial No. 529,840 filed April 6, 1944, now Patent No. 2,397,649, dated April 2, 1946. A pintle pin 12 is disposed within the aligning opening 11 to pivotally connect the sections 5 and 6 along the edge at one side of the hinge.

The member 6 is formed with a wall 13 on the side thereof opposite to the hinging means which defines a recess 14 with the adjacent portions of the member 6. A curved guard 15, which also extends the full length of hinged members 5 and 6 is mounted on member 5 and is received within the recess 14. With the larger size hinges the guard 15 may be extruded integrally with member 5; but with the smaller hinges the guard 15 is separately formed and is mounted to the member 5 by means of a tongue 16 extending along one edge of the guard 15 which is receivable within a groove 17 formed in member 5. The outer surface of member 15 is curved on a radius having its center coincident with the center of pintle 12. The outer surface of guard 15 and the inner surface of wall 13, adjacent the extremity of wall 13, are closely adjacent so that as the door is pivoted from the position shown in Fig. 2 to that shown in Fig. 3, there is no likelihood of one being caught between the adjacent surfaces. The drawing illustrates the hinge on an enlarged scale so that the clearance between the members is actually less than that appearing in the drawing. Since the hinge is continuous from one end of the door to the other and since the wall 13 and guard 15 are closely adjacent to each other at all positions of the door 3 one cannot be caught or pinched between the abutting edges of the hinge.

Formal changes may be made in the specific embodiment of the invention disclosed without departing from the spirit and substance of the invention or scope of which is commensurate with the appended claims.

What is claimed is:

1. An article of manufacture in a hinge construction comprising a hinge element having a channel-shaped recess extending along one side thereof adapted to receive a member to be hing-